DOCUMENT SCOPE

These instructions describe the system requirements and process for installing and initial configuration of jBASE 5.5.1 on Microsoft Windows operating systems.

ABOUT THE JBASE DATABASE MANAGEMENT SYSTEM

Welcome to the exciting future of MultiValue, with jBASE, a world-class database management system that combines scalability, performance and a small footprint with proven rich features and legendary flexibility to meet your demanding business applications.

SYSTEM REQUIREMENTS

☐ jBASE 5.5.1 for is a x64 64-bit application and must be installed on Microsoft Windows 64-bit operating systems.

System resource requirements

jBASE 5.5.1 for Windows requires the same minimum hardware specifications as the host operating system plus a minimum of 500MB of additional hard disk space.

Supported operating systems

- Windows 7 64-bit
- Windows 8/8.1 64-bit
- Windows 10 64-bit
- Windows Server 2008 R2
- Windows Server 2012
- Windows Server 2012 R2

Verifying operating system

Windows 7

Click the start button, search for Computer, right-click Computer and choose Properties.
Windows 8/8.1

Click the Start button, search for Computer, right-click This PC and choose Properties.
Windows 10

Right-Click the start menu icon and choose System.
Windows Server 2008 R2

Click the start button, right-click Computer and choose Properties.
Windows Server 2012 R2

Click the start menu, right-click this PC, choose Properties.
LICENSE INFORMATION

To install jBASE 5.5.1 for Windows, you will need the JBASE_5.5.1.xxx_rel_64bit.exe installer, license key and a user account with administrator privileges. For licensing assistance contact
Zumasys jBASE support in the United States at 866 582 8447 and from the United Kingdom at 0808 189 3266 or sales@jbase.com.

Installer file

License Information

**jBASE Installation License**

<table>
<thead>
<tr>
<th>Customer</th>
<th>Zumasys Inc. (via jBASE International Inc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplier</td>
<td>jBASE International Inc.</td>
</tr>
<tr>
<td>Product Name</td>
<td>ALL</td>
</tr>
<tr>
<td>Number of Users</td>
<td>00003</td>
</tr>
<tr>
<td>Expiry Date</td>
<td>08 OCT 2016</td>
</tr>
<tr>
<td>Platform</td>
<td>n/a</td>
</tr>
<tr>
<td>Release</td>
<td>jBASE 5.5.0</td>
</tr>
<tr>
<td>License Key</td>
<td></td>
</tr>
</tbody>
</table>

Evaluation License installation for all platforms:

**INSTALLATION**

**Installation Types**

The jBASE installer provides two installation modes: **Express** and **Advanced**:
**Express:** install jBASE with typical options and services. Select this option if you are new to jBASE and wish to get started quickly. Express mode installs jBASE, creates a jBASE Administrator user and account, creates a SYSTEM file to organize jBASE accounts, initializes the spooler, installs and starts JBASE services.

**Advanced:** allows you to select which features and services to install. Select this option if you need to customize the location of the jBASE data files (SYSTEM file, administrator account, spooler), or if you do not want some of these features installed. Also select this option to select which optional services to install (telnet and jRCS).

---

Each step below will highlight which mode this step pertains. If you do not see the step during installation, skip to the next step as it may not apply to the mode chosen.

---

**Starting the Installation**

1. Launch the installer and choose Run if prompted.

   Applies to: Express Advanced

   ![Open File - Security Warning](image)

   2. Choose Next to continue.

   Applies to: Express Advanced
3. Choose your company location and then click Next.

Applies to: **Express Advanced**

4. Review the End User License Agreement (EULA) and choose I Agree. Then click Next.

Applies to: **Express Advanced**
5. Choose the installation type, then click Next. See the beginning of this section for more detail about each mode.

Applies to: Express Advanced

6. Choose the installation path for jBASE, default is C:\jBASE\5.5.1.
For Windows Server installations, it is recommended to install to an alternate partition than the C:\ System partition if available, however JBASE will install properly on any local partition if there is sufficient free disk space.

7. Choose the directory where the jBASE data files will be stored. The SYSTEM file, jBASE Administrator account and spooler directory will be created in the jBASE data directory.
8. Choose the Start Menu folder for the application shortcuts, default is “jBASE”, click Next.

Applies to: Express Advanced
9. Choose the installation options, then click Next.

Applies to: Express Advanced

Create jBASE administrator user The installer can create a new Windows user to perform jBASE administrative functions such as creating new jBASE accounts. The jBASE administrator also owns the jBASE system files. If you select this option, you will be prompted for the user name.
and password. An existing user name is acceptable, for example, when performing an upgrade of jBASE.

Create SYSTEM file to organize jBASE accounts In jBASE, the SYSTEM file is optional. However, using a SYSTEM file provides a convenient way to organize your jBASE accounts, and is required for using Q-pointers and the LOGTO command in your jBASE applications.

Create JBASEADM account for administrative functions The JBASEADM account can be used to perform jBASE administrative tasks such as creating or deleting other jBASE accounts.

Initialize (or start) the print spooler Select this option to initialize the default print spooler configuration after a new installation. For upgrade installations, select this option to start the print spooler after installation.

Start telnet server The jBASE telnet server is required to support remote connections to jBASE over telnet. The telnet server runs as a Windows service. By default, the telnet server listens on TCP port 23. See jBASE knowledgebase article www.jbase.com/r5/knowledgebase/manuals/3.0/30manpages/man/telnet1.htm for information on configuring the jBASE telnet server.

Start jRCS service The jBASE Remote Connectivity Server (jRCS) provides remote access to your jBASE system. jBASE System Manager uses this service to perform management tasks on your jBASE system. By default, the jRCS server listens on TCP port 8236. See the jBASE knowledgebase article JRCS for more information regarding jRCS.

10. Type a username to be created for the jBASE Administrator. The installer will create a local Windows user account who will "own" the jBASE system files, and can be used to perform jBASE administrative tasks such as creating new jBASE accounts. If the user does not exist, the installer will create the user for you. Then click Next.

Applies to: Express Advanced
11. If the user name specified in the previous screen does not exist, you need to specify a password for this user. If there are Windows Group Policy requirements that apply to this computer, you must type a password that meets the requirements, then click Next. The installer will not create a new user without a password. Because security policies vary widely, it is not possible for the jBASE installer to validate that the password you enter conforms to the local security policy of the computer. Be sure to follow your local security policy regarding passwords. Otherwise the installer will not be able to create the JBASE Administrator user, and you will need to do this manually after the installation.

Applies to: Express Advanced

![jBASE Administrator User Password dialog box]

12. Enter a jBASE license key, then click Next.

Applies to: Express Advanced
jBASE requires a valid license key in order to operate. Either a permanent or evaluation key may be used. If you have been issued a Multisession or Websession license key, enter these keys in the respective fields. If you are upgrading from a previous version of jBASE, the installer will attempt to locate your existing license keys and use them to populate the license key fields on this page. **Note: the installer will not continue unless you enter a license key.**

For licensing assistance contact Zumasys jBASE support in the United States at 866 582 8447 and from the United Kingdom at 0808 189 3266 or sales@jbase.com.

13. Review the summary information and then click Install.

Applies to: **Express Advanced**
14. The jBASE release files are copied to the destination folder, replacing any existing files if installing over an existing installation.

Applies to: Express Advanced
15. After copying the jBASE release files, the installer will install the Microsoft Visual C++ runtime. Finally, optional configuration tasks are performed, such as creating the jBASE Administrator user, creating the SYSTEM file, the JBASEADM account, initializing the spooler, and installing and starting the jBASE services.

Applies to: Express Advanced

16. If the password for the jbaseadm user does not conform to the password policy of the machine, you will be prompted to enter a new password:

Applies to: Express Advanced
17. An information screen will show the results of the installation, with any special instructions or errors that you should be aware of.

Applies to: Express Advance
18. If jBASE installation was successful, two additional options are available: install the compiler (see next section) and open a jShell command prompt. If the installation was not successful, for example, an invalid license key was entered, an error message will be displayed.

Applies to: **Express Advanced**
Installing the Compiler

In order to compile and catalog programs and subroutines in jBASE, a 'C' compiler must be installed on the system. After completing the jBASE installation, one of the optional tasks you can select is to install and configure the compiler.

If you need to run the compiler configuration wizard separately from the jBASE installer, open a command prompt, change to the directory where you saved the jBASE installer, and enter the name of the installer executable file, followed by /COMPILER (leave a space between the file name and the slash). For example: jbase_5.5.1.18121_rel_64bit.exe /COMPILER

1. After clicking Finish in step 18 above, you will see the jBASE Compiler welcome screen. Click Next.
2. The wizard will examine your system to determine if a suitable compiler is already installed, and verify that the correct environment variables are set for using the compiler with jBASE. Click Next.
Because the actual compiler installation is performed by Microsoft's web-based SDK installer, an Internet connection is required to complete the installation. If any prerequisites are required, you will be provided with instructions on installing them. Prerequisites may include .NET 3.5 Framework feature on Windows Server 2012 R2 and SP1 for Visual Studio 2008.

3. In this case .NET Framework 3.5 was not found and is required on this server. The installer will detail instructions on how to add .NET 3.5. Follow these instructions before clicking Next.

4. Open the Windows Server Manager and choose Manage, then click Add Roles and Features.

Windows Server 2012 R2 instructions are shown below. Depending on the version of Windows your experience may vary.
5. The Add Roles and Features welcome screen is displayed, click Next.

6. Choose Role-based or feature-based installation, then click Next.
7. Choose the local server (Default) and click Next.

8. Click Next through the Server Roles page.
9. Choose .NET Framework 2.5 Features, then click Next.

10. On the confirm page, click Install.
11. You should see a progress window while Windows downloads and installs .NET Framework 3.5.

12. If the installation is successful, you will see this message, click close when finished.
13. Once the prerequisites are installed, click Next.

14. Click Launch the SDK Installer button to start the web-based SDK installer. jBASE does not require many of the SDK components, so a screen shot displaying only the required components will be displayed to aid in the SDK installation process. You can install additional components if you desire - the minimum components are shown in the screen shot.
The SDK is named “Windows SDK for Windows 7 and .NET Framework 3.5 SP1” however it is the correct SDK for Windows 7, Windows 8/8.1, Windows 10, as well as Windows Server 2008 R2, and Windows Server 2012 R2.

15. The Windows SDK Installation screen will appear, click Next.
16. Choose I Agree and then click Next.

17. Leave the default installation locations, then click Next.
18. You will see a screenshot in the background which is a guide for which components to install. You may install more components if you desire, however the screenshot will show you the minimum required components for the jBASE compiler.

Compare the screenshot to your actual selections, when ready click Next.
19. Click Next to start the installation.

20. You should see a progress indicator downloading the Windows SDK and installing files.
21. When the installer finishes, you will see this screen. Uncheck the “View the Windows SDK Release Notes” option if you do not wish to view the notes. Then Click Finish.

22. Now you should be back to the jBASE 5 Compiler Configuration window, click Next.
23. After the SDK is installed, the wizard will examine the system environment variables which jBASE requires for invoking the compiler. Click Next.

24. The updated environment variables will be shown, click Update Environment Variables first.
25. The update environment variables confirmation box will display, click Ok.

26. Click Next.
27. Click the 'Finish' button to close the wizard.

28. Congratulations, you have finished the jBASE Compiler installation, you should see a command prompt displayed.

*Note: in order to use telnet connections to jBASE, you must restart your computer.*
Upgrading from a Previous Version

The jBASE installer will examine the directory pointed to by the JBCRELEASEDIR environment variable for a previous jBASE installation. If a 'config' directory is found in the previous jBASE release directory, the current contents of the previous 'config' directory will be backed up to 'config_pre_<new version>' in the destination directory. For example, if, prior to installing this release of jBASE, JBCRELEAESEDIR points to 'C:\jBASE5\5.2' and the new installation destination directory is C:\jBASE\5.5.1, then the contents of 'C:\jBASE5\5.2\config' will be backed up as 'C:\jBASE\5.5.1\config_pre_5.5.1'.

If you have modified any of the configuration files in the previous release 'config' directory, you will need to apply your modifications to the corresponding files in the new installation 'config' directory. Such files may include:

- **Config_EMULATE** - Contains the JBCEMULATE settings
- **Config_TERM** - Contains translations from PICK TERM to linux TERM items
- **jediLoggerAdminLog, jediLoggerConfig, jediLoggerTransLock** - Contains TJ log parameters
- **jnet_access, jnet_config, jnet_env, jnet_map, jrfs_config** - jRFS configuration files
Manual License Key Installation

The jBASE installer will automatically update the license keys. If you need to change the keys, for example, to enter a permanent key instead of an evaluation key, you can use Notepad to enter the keys in the 'system.properties' file. The 'system.properties' file is located in the 'config' directory under your jBASE installation directory. For example:

E:\jBASE\5.5.1\config

You should have either a permanent system license key, or an evaluation license key. You may also have a 'Multisession' and/or 'Websession' key. Each key must be added as a separate entry in the 'system.properties' file. New keys should be added at the end of the file, after the 'jruntime.license' line, which should be left in the file without modification. When the keys have been added, the last few lines of your 'system.properties' file will look something like this:
Manual Installation of jDLS service

jBASE 5.5.1 for Windows uses 'shared memory which must be initialized prior to using many jBASE functions, such as jShell. Typically, this function is performed by the 'jBASE Distributed Locking Service' (jDLS). 'jDLS' is designed to be run as a Windows Service.

When jBASE is installed using Express and Advanced install modes, the 'jDLS' service is installed and started automatically. The service is started using default options (background operation, process-based locks).

If you need to manually install the service (for example, when using the Minimal install mode) the 'jServControl' command can be used. From an elevated Windows Command (DOS) prompt type the command:

```
jServControl -s auto -p %JBCRELEASEDIR%\bin\jdls.exe jDLS install start
```

The command prompt must be started using the 'Run as Administrator' option.

jDLS can now be managed as a normal Windows service.

For further information on jBASE Distributed Locking Service see the jBASE Knowledgebase: http://www.jbase.com/pdf/docs/jBASE-Distributed-Locking-User-Guide.pdf
**MANAGEMENT**

**Users and Accounts**

jBASE Users are normal Windows user accounts and both local and domain users are supported. A jBASE account is a user account inside jBASE, represented as a folder that contains jBASE data and executable files. The jBASE Account depends on the Windows user account for remote access, for example via Telnet.

**Configuration of jBASEADM**

If you installed jBASE with the Express or Advanced option above, the installer automatically created a local Windows user account called ‘jbaseadm’. The installer also already created a jBASE Account and folder under the jBASE install folder, for example ‘E:\jBASE\jBASEADM’ and set the jbaseadm user home folder to the account folder.

1. Create a Group and add jBASEADM as a member.

2. Access Computer Management. This can be found by navigating through Control Panel or the Start Menu. Depending on your version of Windows this may vary and some steps may not apply.

- jBASE users must be created on the local Windows computer or Active Directory domain of which the computer is a member.

  jBASE users must have permission to read and write into the jBASE application folder and subfolders, for example ‘E:\jBASE’ and subfolders.

  It is recommended to create a User Group to apply permissions to the jBASE application folder.
3. From the Control Panel, choose category, then choose either Large Icons or Small Icons.

5. Choose Computer Management.

6. Navigate into Local Users and Groups, and into Groups folder.
7. Right-Click Groups and choose New Group.
8. Type a name for the group, for example, jBASE Users.

9. Click the Add button, and add the jBASEADM user.
10. Click Ok, and then Close button.

11. Browse to the jBASE install folder, right-click the folder and choose properties.

13. Click Add.

14. Type in the group name you created earlier, click Ok.
15. Choose the Modify permission and the Allow checkbox, then click Ok.

If your environment requires additional security, it is recommended to only allow the jBASE Users group permission to the following subfolders under the jBASE\5.5.1 folder; dev, jbase, data, misc, proc, src, and tmp.

16. Click Ok again, then log off Windows.

17. Login as the localmachinename\jbaseadm.
18. Once logged in to Windows as jbaseadm you can test connecting into jBASE with telnet using AccuTerm or any telnet client.

19. In this example, we will use the free telnet client called PuTTY.

20. You may telnet to jBASE from the local computer or from any other computer over a network. From the local computer, open Putty and point it to 127.0.0.1 and choose Telnet.
21. Click on the Data category under Connection, and enter “vt100” as the terminal type string, then click Open.

22. You should see this screen, enter jbaseadm as the username and press Enter.
23. Type the same password you used to login to Windows and press Enter.

24. Congratulations, you have successfully connected into jBASE as jBASEADM using telnet, and are at the JSHELL prompt.
Creating additional users for jBASE

To create additional users, we need to first create a Windows user, just like the JBASEADM user account.

1. Access Computer Management. This can be found by navigating through Control Panel or the Start Menu. Depending on your version of Windows this may vary and some steps may not apply.
2. From the Control Panel, choose category, then choose either Large Icons or Small Icons.

3. Choose Administrative Tools.

5. Navigate into Local Users and Groups, and into the Users folder.

6. To create a new user, right-click on the Users folder, and choose New User.
7. Fill in the user information and click Create, then click Close.

8. Right-click on the user you created and choose Properties.
9. Click Member Of, then click Add.

10. We will add the new user to the jBASE Users Group we created in the previous section. Click Ok.
11. Click Ok. Before you can use this account, you will need to proceed to the next section to create the corresponding jBASE Account.

Creating jBASE Accounts

1. From the telnet session opened in the previous section as jBASEADM, run the following command to create a jBASE Account for the user ‘jbaseuser’.

   CREATE-ACCOUNT jbaseuser
2. Press Enter, then you should see the message, Account 'jbaseuser' created.

3. Close the telnet session by typing “OFF” at the jShell prompt.

4. From the local computer, open Putty and point it to 127.0.0.1 and choose Telnet.
5. Click on the Data category under Connection, and enter “vt100” as the terminal type string, then click Open.
6. Type the user name jbaseuser and press Enter.

7. Type the same password you configured for jbaseuser, and press Enter.
8. Enter the account name jbaseuser and press Enter.
9. Congratulations, you are now logged in to jBASE as the new user account called jbaseuser and at the JSHELL prompt.

FURTHER READING

Further reading relating to jBASE and its component technologies is available from the jBASE Knowledgebase.
<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>jBASE Agent</td>
<td>Accepts and Processes incoming client requests</td>
</tr>
<tr>
<td>jEDI Development Kit</td>
<td>Provides access to RDBMS from jBASE applications</td>
</tr>
<tr>
<td>jBASE jDBC Driver</td>
<td>Provides JDBC access to jBASE data files</td>
</tr>
<tr>
<td>jBASE ODBC Driver</td>
<td>Provides ODBC access to jBASE data files</td>
</tr>
<tr>
<td>Transaction Journaling</td>
<td>Logs jBASE database updates</td>
</tr>
<tr>
<td>jBASE Dataguard</td>
<td>Database Resilience within jBASE</td>
</tr>
<tr>
<td>jRCS</td>
<td>jBASE Remote Connectivity Service</td>
</tr>
<tr>
<td>jBASE Spooler</td>
<td>The jBASE Spooler</td>
</tr>
<tr>
<td>mv.NET</td>
<td>Visual Studio development for MultiValue Data</td>
</tr>
</tbody>
</table>

The ODBC driver requires MSCV runtime for VS2005, downloads available here:

- [Microsoft Visual C++ 2005 SP1 Redistributable Package (x86)](link)
- [Microsoft Visual C++ 2005 SP1 Redistributable Package (x64)](link)

**SUPPORT**

Contact jBASE support in the United States at 866 582 8447 and from the United Kingdom at 0808 189 3266. You may also email devsup@jbase.com and visit [http://www.jbase.com/support/](http://www.jbase.com/support/) for more support options.

**GLOSSARY**

**jBASE**

An open database product that brings the strengths of MultiValue technology into the mainstream computing market; providing a multidimensional database, a development environment including a development language, and a middleware component allowing other mainstream and standards-based products to communicate with the jBASE products.

**jBASE Distributed Locking Service (jDLS)**

jDLS is responsible for resolving all record locking conflicts for jBASE processes. It runs in the background on your system and is commonly referred to as the lock daemon.
If jDLS is not running, jBASE will use the normal operating system locks. This is acceptable for small user populations, but the operating system locking mechanism has limits on the number of locks available, and on performance.

jBASIC

The language built in to jBASE, jBASE BASIC (jBC) is a dialect of BASIC that combines the power of stored procedure languages with a fully-fledged development language.

jCL

The jBASE Command Language is an implementation of the PROC processor found in other multivalue offerings. The jCL processor stores a complex series of commands that can be executed later by a single word or command, but does not require any compilation.

jED

The jBASE Editor. jED is a fully featured screen editor, which can be used for creating, modifying, or deleting records.

jEDI

The jBASE External Device Interface (jEDII). The jEDI enables applications to achieve seamless integration with foreign databases without changes to the jBASE MultiValue BASIC application code and logic. [JEDIFILENAME_SYSTEM]

jLP

The jBASE spooler program. This is the jBASE equivalent of the unix lp command.

jPLUS

jPLUS files provide large file support on 64 bit UNIX and Windows platforms, such that Hash files can extend beyond the normal 2GB operating system limit.

jQL

The jBASE Query Language (jQL) is a powerful and easy to use facility which allows you to retrieve data from the database in a structured manner and to present the data in a flexible and easily understood format.

jRCS

The jBASE Remote Connectivity Server. jRCS runs as a Windows service and provides jBASE functions to remote programs. jBASE System Manager uses jRCS to perform its management tasks.

jServControl

A jBASE command line utility allowing the install, configuration and removal of jBASE services.
JSH.exe
A windows executable that initiates a jSHELL session.

jshmd
jBASE service that initiates the required areas of shared memory for systems which utilise operating system locking.

jSHELL
The jBASE shell. It can be invoked as your login shell by using the normal system administration software supplied with the platform. Either via .bat files (Windows) or .profiles (Unix).

Environment Variables
jBASE uses a number of environment variables to modify jBASE behaviour

HOME
The 'HOME' environment variable. This stores the pathname of user home directory

Multisession
A Multisession license allows for up to ten concurrent sessions from a single IP address or system name to the database.

System.Properties
The 'system.properties' file resides in the %JBCRELEASEDIR%\config directory and stores jBASE license keys and compiler instructions.

Websession
A Websession license allows up to a ten sessions originating from a Web Server or Terminal Server (single IP address). For example with three of these licenses the Web Server would have 30 concurrent sessions available.